

APHIS – Plant Protection and Quarantine
California Department of Food and Agriculture
Weekly Situation Report: Light Brown Apple Moth (LBAM)
March 14, 2008

Updates in red

Survey and Diagnostics Information:

Counties	Survey		Diagnostics	
	Number of Traps	Presumptive Positive	Confirmed Positive	
			This Week	Total
Alameda	2,678	0	22	480
Amador	0	0	0	0
Butte	209	0	0	0
Calaveras	0	0	0	0
Colusa	27	0	0	0
Contra Costa	1,793	0	1	156
Del Norte	107	0	0	0
El Dorado	77	0	0	0
Fresno	808	0	0	0
Humboldt	0	0	0	0
Imperial	222	0	0	0
Kern	498	0	0	0
Kings	133	0	0	0
Lake	0	0	0	0
Los Angeles	4,961	0	0	1
Madera	217	0	0	0
Marin	1,166	0	7	106
Mariposa	53	0	0	0
Mendocino	28	0	0	0
Merced	294	0	0	0
Monterey	3,498	0	26	1,101
Napa	1,004	0	0	2
Orange	1,705	0	0	0
Placer	73	0	0	0
Plumas/Sierra	6	0	0	0
Riverside	1718	0	0	0
Sacramento	56	0	0	0
San Benito	94	0	0	0
San Bernardino	1,169	0	0	0
San Diego	2,109	0	0	0
San Francisco	175	0	222	4,551
San Joaquin	756	0	0	0
San Luis Obispo	463	0	0	1
San Mateo	2,686	0	4	129
Santa Barbara	476	0	1	2
Santa Clara	5,061	0	2	31
Santa Cruz	3,534	0	108	11,420
Shasta	197	0	0	0
Siskiyou	298	0	0	0
Solano	1,434	0	0	10
Sonoma	896	0	0	1

Counties	Survey		Diagnostics	
	Number of Traps	Presumptive Positive	Confirmed Positive	
			This Week	Total
Stanislaus	259	0	0	0
Sutter	110	0	0	0
Tehama	60	0	0	0
Trinity	79	0	0	0
Tulare	705	0	0	0
Tuolumne	0	0	0	0
Ventura	546	0	0	0
Yolo	171	0	0	0
Yuba	46	0	0	0
Total	42,655	0	393	17,991

- **Survey**

- Survey teams continue to implement a rigorous detection and delimiting survey for the light brown apple moth (LBAM), *Epiphyas postvittana*, in 51 counties.
- A total of 42,655 pheromone-baited traps are placed in and around retail and production nurseries, at ports of entry, and in the open environment and are being inspected bi-weekly.
- Visual inspections of all nurseries located within 1.5 miles from any traps with confirmed LBAM are conducted for the presence of any life stages.

- **Identification and Diagnostics**

- A total of 17,991 moths have been confirmed to date as LBAM. Most of the captures (99%), however, are from traps located in two specific geographical areas. The first area, representing 71% of all LBAM captures, encompasses southern Santa Cruz and northern Monterey counties. The second area, which represents approximately 28% of captures, includes contiguous portions of northwest Alameda, western Contra Costa, and northern San Francisco counties. The remaining 1% came from mostly single trap captures in Los Angeles, Marin, Napa, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, and Sonoma counties.
- LBAM immature life stages, including larvae and pupae have been found in a total of 55 nurseries, cut flower or greenery farms in Contra Costa, Marin, Monterey, San Francisco, San Mateo, Santa Clara, and Santa Cruz counties. Infested nurseries have the option to treat and be re-inspected as part of the regulatory requirements.

Operational Update:

- **Technical Working Group (TWG)**

- The TWG met on December 13 and 14 in San Diego to review program progress and made recommendations designed to provide short and long-term plans to contain, control, and eradicate LBAM in California. TWG recommendations include the use the pheromone as the primary control

strategy, while developing long-term control methods such as sterile insect technology.

- A field trial designed to measure the efficacy of several pheromone formulations is underway in New Zealand. Data from the trial will be used to select the most efficacious and suitable pheromone formulations for the 2008 program treatments.
- **Incident Command**
 - A total of 171 personnel are on-site (124 Counties and CDFA; and 47-APHIS) assuming various roles within the ICS structure.
- **Regulatory Actions**
 - CDFA, APHIS, and County personnel continue to conduct inspections and certification of host commodities in the quarantine areas as required by State LBAM regulations and by the Federal Quarantine Order.
 - To date, a total of 506 compliance agreements have been issued to establishments located within the quarantine area requiring regular inspections of all nursery stock and other host materials.
- **Treatment**
 - Nurseries with host plants that are confirmed as infested with LBAM larvae or pupae have the option of treating with Chlorpyrifos or destroying infested plants.
 - In fall 2007 -
 - o Three ground applications of *Bacillus thuringiensis* (Bt) were made in Oakley (141 properties) and Napa (71 properties).
 - o Hand-applied pheromone applications of Isomate-LBAM (twist-ties) were used in Oakley, Napa, Danville, Dublin, San Jose, Sherman Oaks, and Vallejo/Mare Island.
 - o Two aerial applications of the pheromone Checkmate OLR-F were made in Marina, Seaside, Sand City, Del Rey Oaks, Monterey and Pacific Grove areas of Monterey County, with approximately 36,500 acres having been treated each time.
 - o One aerial application was also completed in North Salinas/Boronda and the Prunedale/Royal Oaks.
 - 2008 treatment plans –
 - o Hand and ground applications of pheromone are scheduled for April 2008.
 - o Aerial application of pheromone is scheduled to commence in early June, 2008.
 - o Pheromone formulations will be selected based on efficacy data currently being generated in the ongoing New Zealand trial.
- **Environmental Assessment and Monitoring**
 - The Programmatic Environmental Assessment conducted for the LBAM mating disruption (pheromone) program was posted on the APHIS website on February 14, 2008. Public comments are welcomed for thirty days.
 - A supplemental Programmatic Environmental Analysis that addresses aerial application of pheromone is planned to be released for public comments around April 30, 2008.

- Pheromone applications will commence only after all toxicological and environmental analyses been completed and results confirm no risk to public health and the environment.

Trade Update:

- On May 24, Mexico suspended importation of certain LBAM host crops commodities – primarily fruits and nursery stock – from the quarantined counties in California and Hawaii and has required additional inspection and certification of commodities originating from outside quarantined counties.
- The Canadian Food Inspection Agency (CFIA) announced on Friday June 15 its LBAM requirements for host commodities exported to Canada. Details of the requirements are posted on the CFIA website at <http://www.inspection.gc.ca/english/plaveg/pestrava/lbampbpp/lbampbppe.shtml>

Communication and Outreach:

- CDFA and APHIS public information officers continue to provide information and field questions regarding the 2008 LBAM program plans in California.
- Legal notice announcing availability of the Environmental Assessment for the Light Brown Apple Moth in California was published in several California newspapers on February 14, 2008.

Background:

- On February 6, 2007, a private citizen near Berkeley in Alameda County, California, reported that two suspect moths had been captured in a blacklight trap on his property.
- In response, pheromone-baited traps were placed on March 1, 2007, in Alameda and Contra Costa counties. Trap inspections began March 7, 2007.
- On March 16, 2007, the ARS Systematic Entomology Laboratory (SEL) in Washington, DC, confirmed through morphological testing that the two samples submitted were, in fact, LBAM.
- CDFA established on April 20, 2007 a LBAM quarantine of at least 182 square miles in Alameda, Contra Costa, San Francisco, Marin and Santa Clara counties. The quarantine is expected to expand to include Monterey, Santa Cruz and San Mateo counties.
- APHIS issued a LBAM Federal Quarantine Order on May 2, 2007, requiring inspection and certification of all nursery stock and host commodities from eight counties in California, including Alameda, Contra Costa, Marin, Monterey, San Francisco, San Mateo, Santa Clara, and Santa Cruz counties.
- A Technical Working Group (TWG) consisting of subject matter experts from Australia, New Zealand, and the United States was established to provide APHIS and CDFA technical recommendations. The TWG toured the infested region on May 16 and concluded with a two-day meeting on May 17-18 in San Jose, California. Recommendations designed to provide short and long-term plans to contain, control, and eradicate LBAM in California were forwarded to APHIS and CDFA.
- The light brown apple moth (LBAM), *Epiphyas postvittana*, is a native pest of Australia and is now widely distributed in New Zealand, the United Kingdom,

Ireland, and New Caledonia. Although it was reported in Hawaii in the late 1800s, the LBAM find in California is the first on the US mainland.

- LBAM has a host range in excess of 120 plant genera in over 50 families, including nursery stock, cut flowers, fruits, and vegetables.
- LBAM could cause an estimated \$160 to \$640 million annually in crop damage and control costs if it spreads to agricultural production area in the 11 affected counties and up to \$2.4 billion in California.